## **Rec'd PCT/PTO** 1 5 AUG 2005

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## SEQUENCE LISTING

<110> Japan Science and Technology Corporation

<120> Hollow nano-particles composed of cysteine-modified proteins, and their use as a therapentic drug

<130>P023P05

<150> JP2002-191386

<151> 2002-6-28

<150>

<151> 2003-6-27

<160> 36

<170> PatentIn Ver. 2.1

<210> 1

<211> 1218

<212> DNA

<213> Hepatitis B virus

<220>

<221> CDS

<222> (1)..(1218)

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Met Arg Ser Leu Leu Ile Leu Val Leu Cys Phe Leu Pro Leu Ala Ala

1

5

10

15

ttg ggt aag gtt cga caa ggc atg ggg acg aat ctt tct gtt ccc aat 96 Leu Gly Lys Val Arg Gln Gly Met Gly Thr Asn Leu Ser Val Pro Asn

20		25	30	
cct ctg gga ttc ttt c Pro Leu Gly Phe P	he Pro Asp His	s Gln Leu Asp	Pro Ala Phe G	144 lly Ala
35	4	U	45	
aac tca aac aat cca				192
Asn Ser Asn Asn P 50	ro Asp 1rp Asp 55	) Phe Ash Pro	60	an 1rp
cca gag gca aat cag Pro Glu Ala Asn G				
65	70	7	5	80
cca cca cac ggc ggt Pro Pro His Gly Gl				288 y Ile
	85	90		95
ttg aca aca gtg cca Leu Thr Thr Val P				336 g Gln
100		105	110	
tca gga aga cag cct Ser Gly Arg Gln Pi 115		Ser Pro Pro L		384 His
cct cag gcc atg cag	tgg aat tcc aca	aca ttc cac ca	aa gct ctg cta	432
Pro Gln Ala Met G 130	ln Trp Asn Ser 135	Thr Thr Phe	e His Gln Ala L 140	eu Leu
gat ccc aga gtg agg	ggc cta tat ttt	cct gct ggt gg	gc tcc agt tcc	480

gga aca gta aac cct gtt ccg act act gcc tca ccc ata tct ggg gac 528 Gly Thr Val Asn Pro Val Pro Thr Thr Ala Ser Pro Ile Ser Gly Asp

Asp Pro Arg Val Arg Gly Leu Tyr Phe Pro Ala Gly Gly Ser Ser Ser

150

155

160

145

165	170	175
I Da	1 / 1 1	1/3

cct gca ccg aac atg gag aac aca aca tca gga ttc cta gga ccc ctg 576 Pro Ala Pro Asn Met Glu Asn Thr Thr Ser Gly Phe Leu Gly Pro Leu 180 185 190

ctc gtg tta cag gcg ggg ttt ttc ttg ttg aca aga atc ctc aca ata 624 Leu Val Leu Gln Ala Gly Phe Phe Leu Leu Thr Arg Ile Leu Thr Ile 195 200 205

cca cag agt cta gac tcg tgg tgg act tct ctc aat ttt cta ggg gga 672 Pro Gln Ser Leu Asp Ser Trp Trp Thr Ser Leu Asn Phe Leu Gly Gly 210 215 220

gca ccc acg tgt cct ggc caa aat tcg cag tcc cca acc tcc aat cac 720 Ala Pro Thr Cys Pro Gly Gln Asn Ser Gln Ser Pro Thr Ser Asn His 225 230 235 240

tca cca acc tct tgt cct cca att tgt cct ggc tat cgc tgg atg tgt 768 Ser Pro Thr Ser Cys Pro Pro Ile Cys Pro Gly Tyr Arg Trp Met Cys 245 250 255

ctg cgg cgt ttt atc ata ttc ctc ttc atc ctg ctg cta tgc ctc atc 816 Leu Arg Arg Phe Ile Ile Phe Leu Phe Ile Leu Leu Cys Leu Ile 260 265 270

ttc ttg ttg gtt ctt ctg gac tac caa ggt atg ttg ccc gtt tgt cct 864
Phe Leu Leu Val Leu Leu Asp Tyr Gln Gly Met Leu Pro Val Cys Pro
275 280 285

cta ctt cca gga aca tca acc acc agc acg ggg cca tgc aag acc tgc 912 Leu Leu Pro Gly Thr Ser Thr Thr Ser Thr Gly Pro Cys Lys Thr Cys 290 295 300

acg att cct gct caa gga acc tct atg ttt ccc tct tgt tgc tgt aca 960 Thr Ile Pro Ala Gln Gly Thr Ser Met Phe Pro Ser Cys Cys Cys Thr

aaa cet teg gae gga aac tge aet tgt att eec ate eea tea tee tgg Lys Pro Ser Asp Gly Asn Cys Thr Cys Ile Pro Ile Pro Ser Ser Trp get tte gea aga tte eta tgg gag tgg gee tea gte egt tte tee tgg Ala Phe Ala Arg Phe Leu Trp Glu Trp Ala Ser Val Arg Phe Ser Trp ctc agt tta cta gtg cca ttt gtt cag tgg ttc gta ggg ctt tcc ccc Leu Ser Leu Leu Val Pro Phe Val Gln Trp Phe Val Gly Leu Ser Pro act gtt tgg ctt tca gtt ata tgg atg atg tgg tat tgg ggg cca agt Thr Val Trp Leu Ser Val Ile Trp Met Met Trp Tyr Trp Gly Pro Ser ctg tac aac atc ttg agt ccc ttt tta cct cta tta cca att ttc ttt Leu Tyr Asn Ile Leu Ser Pro Phe Leu Pro Leu Leu Pro Ile Phe Phe tgt ctt tgg gta tat att Cys Leu Trp Val Tyr Ile <210> 2 <211> 406 <212> PRT <213> Hepatitis B virus <400>2Met Arg Ser Leu Leu Ile Leu Val Leu Cys Phe Leu Pro Leu Ala Ala 

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Pro Leu Gly Phe l 35	Phe Pro Asp His C 40	In Leu Asp Pro	Ala Phe Gly Ala 45
Asn Ser Asn Asn I	Pro Asp Trp Asp F 55	Phe Asn Pro Asn 60	
Pro Glu Ala Asn (	Gln Val Gly Ala Gl 70	y Ala Phe Gly P 75	ro Gly Phe Thr 80
Pro Pro His Gly C	lly Leu Leu Gly T 85	rp Ser Pro Gln A	lla Gln Gly Ile 95
Leu Thr Thr Val I		ro Pro Ala Ser Ti 105	hr Asn Arg Gln 110
Ser Gly Arg Gln F 115	Pro Thr Pro Ile Se 120	r Pro Pro Leu Ai	rg Asp Ser His 125
Pro Gln Ala Met (	Gln Trp Asn Ser T 135	hr Thr Phe His 14	
Asp Pro Arg Val A	arg Gly Leu Tyr Pi 150	he Pro Ala Gly C 155	Gly Ser Ser Ser 160
Gly Thr Val Asn F	Pro Val Pro Thr Tl 165	nr Ala Ser Pro Il 170	e Ser Gly Asp 175
Pro Ala Pro Asn N 180		Thr Ser Gly Phe 185	Leu Gly Pro Leu 190
Leu Val Leu Gln A	Ala Gly Phe Phe I 200	eu Leu Thr Arg	Ile Leu Thr Ile 205

210	r Leu Asp Ser Trp 21		Leu Asn Phe 220	Leu Gly Gly
210	2)	.0	220	
Ala Pro Th	r Cys Pro Gly Glr	n Asn Ser Gln	Ser Pro Thr	Ser Asn His
225	230		235	240
C D Th	C C	II. C. D. C.	71 M A M	M. A. O
Ser Pro In	r Ser Cys Pro Pro 245	nie Cys Pro C 25		rp Met Cys 255
	210	2	,0	200
Leu Arg Ar	g Phe Ile Ile Phe	Leu Phe Ile I	eu Leu Leu (	Cys Leu Ile
	260	265		270
Dia I am I a				- 17-1 C - D
Pne Leu Le 27	eu Val Leu Leu As 5	sp Tyr Gin Gi 280		o vai Cys Pro 35
2.		200	20	
Leu Leu Pr	o Gly Thr Ser Th	r Thr Ser Thi	r Gly Pro Cys	Lys Thr Cys
290	29	95	300	
The He Dec	Alo Cla Clar Tha	Can Mat Dha	Due Con Cree (	Crea Crea The
305	Ala Gln Gly Thr 310	Ser Met Phe	315	oys Cys Inr 320
000	510		010	020
Lys Pro Ser	r Asp Gly Asn Cys	s Thr Cys Ile	Pro Ile Pro Se	er Ser Trp
	325	33	30	335
43 DI 41	A D) I m	Ol m Al	O 77 1 A 1	D1 G M
Ala Phe Ala	a Arg Phe Leu Tr <sub>l</sub> 340	p Giu Trp Ala 345	Ser val Arg I	350
	340			300
Leu Ser Le	u Leu Val Pro Ph	e Val Gln Trp	Phe Val Gly	Leu Ser Pro
35	5	360	36	65
m1				
	Leu Ser Val Ile		_	aly Pro Ser
370	<b>3</b>	75	380	
Leu Tyr As	n Ile Leu Ser Pro	Phe Leu Pro	Leu Leu Pro	Ile Phe Phe
385	390		395	400

Cys Leu Trp Val Tyr Ile 405

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